

BRIEFER ARTICLES.

A NEW SHEEP-POISON FROM MEXICO.

THROUGH the kindness of Professor ALFRED DUGÈS of Guanajuato, Mexico, I have recently had an opportunity to examine specimens of a plant, locally known as *moradillo*, which occurs on the Hacienda de Santiago in Zacatecas, Mexico. This plant is said to poison sheep which eat it. From its floral structure, as well as its habit, there can be no doubt that it belongs to the small solanaceous genus *Bouchetia*. Only two species of this genus are recognized as valid, namely *B. erecta* DC. and *B. procumbens* DC., both published by DUNAL in De Candolle's *Prodromus* 13¹: 589. 1852. Of these, *B. erecta*¹ is a well-known much-branched erect or decumbent plant, 7 to 30 cm high, growing in rocky thickets, etc., of the southwestern United States, Mexico, and southward to Argentina. The corolla is 14 to 18 mm long, being about twice the length of the calyx. The proper tube of the corolla is short and entirely included within the calyx. The habit of the plant is closely that of an *Evolvulus*. *B. procumbens* is a very poorly known species, founded upon one of the drawings of the Mociño and Sesse collections. The tracing of this drawing (*Calques des Dessins*, pl. 920) shows a plant with a cluster of five slightly thickened roots. From the united summit of these spring eight leafy strongly decumbent or perhaps prostrate stems. These are in some cases as much as 12 cm long. The leaves have the narrow lanceolate or oblanceolate form prevalent in *B. erecta*, but the corolla has a slender considerably exserted proper tube. The limb is represented as about 1 cm broad, the lobes being subacute or even shortly acuminate.

So far as I know, the only specimen ever referred to this species since its description was a part of Schaffner's no. 611 from the Valley of San Luis Potosi, a plant so determined by Mr. W. B. HEMSLEY (*Biol. Cent.-Am. Bot.* 2:437). This plant (in herb. Kew) I have not seen. Mr. HEMSLEY also mentions some specimens (Schaffner's no. 69 and Parry & Palmer's no. 701, from San Luis Potosi, as well as Graham's no. 270 from Jalapa)

¹ The synonymy of this species is as follows: *Nierembergia anomala* Miers, Ill. S. Am. Pl. 1:99. pl. 20. 1846. *N. staticaejolia* Sendt. in Mart. Fl. Bras. 10:179. 1846. *Bouchetia erecta* DC. acc. to Dunal in DC. Prodr. 13¹:589. 1852. *Leucanthea Roemeriana* Scheele, Linnaea 25:258-259. 1852. *Bouchetia anomala* Britton & Rusby, Trans. N. Y. Acad. Sci. 7:12. 1887.

which he doubtfully refers to a variety of *B. procumbens* with "floribus quam in icone fere duplo majoribus." Of the numbers here mentioned, Dr. Schaffner's no. 69 and Parry & Palmer's no. 701 are in the Gray Herbarium and appear identical with the sheep-poisoning plant recently sent by Professor DUGÈS. The stems are very short (3 to 4^{cm} in length) and prostrate; they spread from the summits of a 2-several-branched caudex. The flowers, mostly appearing terminal, are more than 3^{cm} long and 2^{cm} in diameter, the long slender proper tube of the corolla greatly exceeding the calyx. The lobes of the corolla are rounded or retuse. I cannot at all believe that this is the plant sketched in the Calques des Dessins, *pl.* 920, which has the grumose roots, far longer branches, narrower corolla-limb and pointed lobes. It seems best, therefore, to characterize the large-flowered plant as a new species. The name chosen alludes to its baneful effects on sheep.

Bouchetia arniatera, n. sp.—Perennis pilis albis minutis curvatis non-glanduliferis subcanescens: caudicis erectis vel patentis ramis subterraneis saepe elongatis flexuosis pallidis; caulibus aeriis pluribus brevibus 3-4^{cm} longis prostratis foliosis prope apicem florentibus: foliis lanceolatis vel elliptico-ob lanceolatis 8-11^{mm} longis 2.5-4^{mm} latis breviter petiolatis acutis vel obtusiusculis uninerviis: pedunculis 3-6^{mm} longis teretibus; floribus solitariis: calycis lobis lanceolatis obtusiusculis erectis 4^{mm} longis quam tubus ovato-turbinatus paulo longioribus: corollae purpureae 32-35^{mm} longae 2^{cm} latae externe obscure glanduloso-puberulae tubo proprio gracili e calyce longe exserto, faucibus gradatim ampliatis, limbi lobis ovato-deltoides apice rotundato vel retuso: filamentis equalibus paulo sub media parte corollae affixis filiformibus glabris 11^{mm} longis; antheris crassis ovoideis 1.5^{mm} longis: capsula ovoidea obtusiuscula 6^{mm} longa: seminibus 1^{mm} longis pallide brunneis irregulariter ovoideis, integumento externo sub laxo celluloso.—*B. procumbens*, var.? Hemsl. Biol. Cent.-Am. Bot. 2:437. 1882.—In mountains of San Miguelita, Valley of San Luis Potosi, August, 1876, Dr. J. G. Schaffner,² no. 69 (hb. Gray), distributed as Petunia; San Luis Potosi, 1878, Drs. Parry & Palmer, no. 701

² The form of Schaffner's name here given is the one used on his printed Latin labels. Dr. Schaffner was a German apothecary, a native of Darmstadt, who settled in Mexico and collected extensively in the neighborhood of the city of Mexico, Orizaba, and San Luis Potosi. He signed himself in two ways, sometimes as Wilhelm Schaffner and sometimes as J. G. Schaffner. The two signatures have given rise to some confusion and a question as to the identity of the person or persons concerned. The "G" doubtless stands for the Latin Guilielmus and the "J" probably for Johann or Johannes. This first initial, in the manner of the Germans being regarded as relatively unimportant, was dropped by Schaffner in his ordinary German signature.

(hb. Gray); Hacienda de Santiago, Zacatecas, communicated by *Prof. A. Dugès*, June, 1904 (hb. Gray).

The reported poisonous qualities of *B. arniatera* certainly raise a suspicion regarding the nearly related *B. erecta*, which is frequent in some grazing regions of our southwestern states where, in case of unexplained sheep-poisoning, it would be well for veterinarians to investigate the toxic effects of this plant.—B. L. ROBINSON, *Gray Herbarium*.

SOME WESTERN SPECIES OF AGROPYRON.

Agropyron spicatum Vaseyi (Scribn. & Smith), n. comb.—*A. Vaseyi* Scribn. & Smith, U. S. Dept. Agr., Div. Agros., Bull. 4:27. 1897.

After a careful study of a large series of specimens I am disposed to regard *A. Vaseyi* as a depauperate form of *A. spicatum*.

Agropyron subvillosum (Hook.), n. comb.—*Triticum repens subvillosum* Hook. Fl. Bor.-Am. 2:254. 1840. *A. dasystachyum subvillosum* (Hook.) Scribn. & Smith. U. S. Dept. Agr., Div. Agros., Bull. 4:33. 1897.

Much field study of this grass has led me to regard it as a distinct species. With its slender culms and small spikelets it is certainly quite different in appearance from the stouter and larger-flowered *A. dasystachyum* and *A. occidentale*. Often it is not at all glaucous, but quite green, and the flowering glumes are sometimes merely scabrous. It is very common in this region, occurring on bench-lands and alkali flats.

Agropyron Bakeri, n. sp.—A smooth cespitose perennial, with stout culms, 3–5 dm high: leaves rigid, flat, prominently striate-nerved; culm leaves three, 12–20 cm long, 2–4 mm wide, those of the innovations longer: spike 9–12 cm long, scarcely exserted, equaled or exceeded by the uppermost leaf; spikelets terete, 5–9 mm distant, 5-flowered, 15–19 mm long: empty glumes 11–12 mm long, two-thirds the length of the spikelets, 5-nerved (the nerves scabrous), margins scarious, narrowly oblong, somewhat abruptly narrowed into an awn 2–8 mm long, and with or without a tooth to one side at the base of the awn: flowering glumes scabrous or nearly smooth on the back, the strong midnerve extended into a rigid widely spreading awn 10–35 mm long, often bidentate below the origin of the awn: palea equaling or somewhat exceeding its glume: rachilla scabrous.

Related to *A. violaceum* and *A. Gmelini*, but distinguished by its stout culms, firm and strongly nerved leaves, and long widely spreading awns. Type specimen in the Rocky Mountain Herbarium, collected by C. F. BAKER, no. 139, near Pagosa Peak in southern Colorado, altitude 2750 m (9000 feet), August, 1899.—ELIAS NELSON, *University of Wyoming, Laramie*.